ECET 3810 – Practice Problem Set 1
1. Referring to the following segment of code, write the lines of code necessary to create a new instance of Clock called “alarm” that’s 2-inches wide by 2-inches high and has an analog format and yellow background. After creating “alarm,” immediately change its background color to blue.

```java
class Clock {
    private int width, height;
    private String clockType, bgColor;
    public Clock(int wInch, int hInch, String clockFormat, String background) {
        width = wInch;
        height = hInch;
        clockType = clockFormat;
        bgColor = background;
    }
    public void changeBackground(String newColor) {
        bgColor = newColor;
    }
}

Clock alarm = new Clock(2,2,"analog","yellow");
Alarm.changeBackground("blue");
```
2. Write down the output of the following segment of code.
```java
int[] number = {3, 6, 7, 10, 12, 18, 22, 23};
int i = 0;
for (i = 1; i < number.length; i++) {
    number[i] = number[i] % 3;
    System.out.println(number[i]);
}
```

```
0
1
1
0
0
1
2
```

**Note: the for-loop starts at i=1, not i=0.**

3. Write the value for “n” after each compare function is executed.

```java
n = “4”.compareTo(“3”); // 1
n = “zoo”.compareTo(“MOO”); // positive number
n = “he”.compareTo(“INSECT”); // positive number
n = “bee”.compareTo(“bee”); // 0
```

4. Write down three differences between the server sockets and regular sockets.

   i) **Class name**
   
   ii) **ServerSocket waits for request from client**
   
   iii) **Client socket (Socket) requires port number and IP address of server**
5. Explain why the following try-catch block is used and when the exception might occur. Assume “inField” and “errorField” have been previously declared.

```java
String line;
try {
    while ((input = inField.getText()) != null) {
        // process user input
    }
} catch (IOException e) {
    errorField.setText("Error reading input");
}

The input device might not be present, and, therefore, cannot be connected via a reader object. Or access permissions are insufficient.
```